## Amendments to the Specification:

Please replace pages 2 and 2a, in their entirety, with the following pages 2 and 2a:

the sole source of carbon and nitrogen. The reaction proceeds via two initial intermediates, hydroxylaminobenzene and *ortho*-aminophenol. The enzymes involved in catalyzing the initial steps are a nitroreductase and a hydroxylaminobenzene mutase. On first inspection the reaction seems similar to the nonenzymatic Bamberger rearrangement. The mechanism of the reactions and the stereochemistry of the products are distinctively different, however. The nitroreductase from strain JS45 has been purified and characterized as a flavoprotein requiring NADPH as an electron donor. Two genes expressing hydroxylaminobenzene ~~(HAB)~~ mutase activity, ~~HabA (SEQ ID NO 1) and HabB (SEQ ID NO 2),~~ have been cloned from strain JS45 and expressed in *E. coli* (J. K. Davis et al, Appl. Environ. Microbiol., Vol. 66, No. 7, 2965-2971, 2000), and one mutase enzyme, HabB (Z. He et al, Eur. J. Biochem., Vol. 267, 1110-1116, 2000), has been partially purified. JS45 was deposited in the American Type Culture Collection Patent Deposit in January, 2002, Patent Deposit Designation PTA-3972. Other reports have demonstrated that bacteria, such as *Clostridium acetobutylicum*, *Ralstonia eutrophus* JMP134, *Pseudomonas putida*, *Pseudomonas putida* HS12, strain LW1 of the *Comamonadaceae* family, and *Pseudomonas putida* 2NP8, synthesize nitroreductases and hydroxylaminoarene mutases that transform a wide range of nitroaromatic compounds to the corresponding aminophenols. The metabolic degradation processes in the above strains are comparable to that described for *P. pseudoalcaligenes* strain JS45. It should be noted that these studies have been directed to biodegradation, i.e, the breakdown of organic compounds into more cell biomass and less complex compounds, and ultimately to water, and either carbon dioxide or methane. The

above-described intermediates have been proposed or noted as intermediates in the biodegradation process(es), and have not been seen as end-products per se.

After page 14 and before the listing of claims, replace the following pages:

SEQUENCE LISTING

<210> SEQ ID NO 1
<211> LENGTH: 135
<212> TYPE: PRT
<213> ORGANISM: *Pseudomonas pseudoalcaligenes* strain JS45

<400> SEQUENCE: 1

Met Gln Thr Tyr Leu Phe Ala Ser Gly Leu Val Leu Phe Leu Leu Gly
1 5 10 15

Leu Val Thr Gly Leu Leu Val Pro Val Ser Lys Asn Pro Arg Met Gly
20 25 30

Val Ala Gly His Leu Gln Gly Met Thr Asn Gly Pro Leu Leu Ile Ile
35 40 45

Ala Gly Leu Leu Trp Pro Tyr Leu Glu Leu Pro Asp Ala Trp Gln Leu
50 55 60

Ala Thr Phe Trp Leu Leu Ile Tyr Gly Thr Tyr Ala Asn Trp Leu Gly
65 70 75 80

Val Gln Leu Ala Ala Leu Trp Gly Ala Gly Ala Lys Leu Ala Pro Ile
85 90 95

Ala Ala Gly Glu His Arg Ser Thr Pro Leu Lys Glu Arg Val Val Thr
100 105 110

Phe Leu Leu Phe Ser Leu Ile Pro Ala Met Phe Ala Ala Pro Ile Ile
115 120 125

Leu Leu Ile Gly Ile Leu Arg
130 135

<210> SEQ ID NO 2
<211> LENGTH: 164
<212> TYPE: PRT
<213> ORGANISM: *Pseudomonas pseudoalcaligenes* strain JS45

<400> SEQUENCE: 2

Met Thr Leu His Thr Pro Ser Thr Asp Ala Pro Leu Ala Arg Arg Leu
1 5 10 15

Leu Gln Leu Gly Ile Ala Leu Phe Leu Leu Gly Leu Leu Thr Gly Phe
20 25 30

Leu Leu Pro Met Met Ala Asn Pro Arg Val Gly Leu Ser Ser His Leu
35 40 45

Glu Gly Val Leu Asn Gly Met Phe Leu Leu Ala Leu Gly Leu Met Trp
50 55 60

Pro Gln Leu Ser Leu Gly Thr Gly Ala Arg Lys Ala Ala Phe Gly Phe
65 70 75 80

Ala Val Tyr Gly Thr Tyr Ala Asn Trp Leu Ala Thr Leu Leu Ala Gly
85 90 95

~~Phe Trp Gly Ala Gly Gly Arg Met Met Pro Ile Ala Ala Gly Gly His~~
~~100 105 110~~

~~Thr Gly Thr Ala Ala Gln Glu Gly Leu Ile Ala Phe Ala Leu Ile Ser~~
~~115 120 125~~

~~Leu Ser Leu Ser Met Leu Val Val Cys Ala Leu Ala Leu Trp Gly Leu~~
~~130 135 140~~

~~Arg Ser Ala Pro Ala Arg Arg Asn Thr Asp Ala Pro Ala Ala Gly Pro~~
~~145 150 155 160~~

~~Gln Pro Ala Ala~~